

Name \_\_\_\_\_

## STUDY GUIDE: Chapter 1

1. Write the meaning that corresponds with the following prefixes/suffixes:

exo _____	hetero _____	homo, homeo _____
co _____	endo _____	bi, di _____
bio _____	photo _____	multi, poly _____
eco _____	cyto _____	uni, mono _____
omni _____	a, an, un _____	aqua, hydro _____

2. Write the prefix/suffix that corresponds with the following meanings:

plants _____	self _____	deficient _____
three _____	loving _____	equal _____
half _____	fearing _____	green _____
nucleus _____	before _____	nourish _____
between _____	excessive _____	true _____

3. Define science:

4. What are the 5 steps of the scientific method, in order?

- 1.
- 2.
- 3.
- 4.
- 5.

5. A good experiment should have:

- A testable \_\_\_\_\_ (possible answer to a scientifically testable question)
- Detailed qualitative and/or quantitative \_\_\_\_\_
- An experimental group and a \_\_\_\_\_ group
- How many variables being changed at one time? \_\_\_\_\_

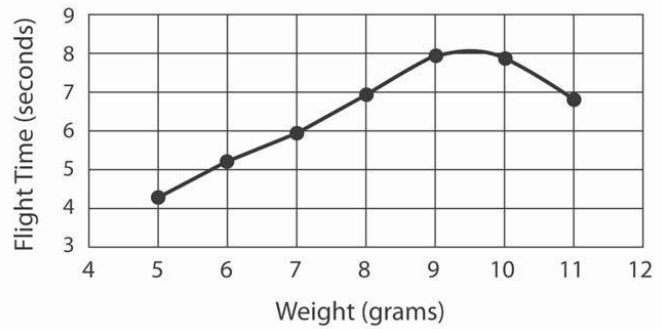
6. \_\_\_\_\_ observations are descriptive characteristics while \_\_\_\_\_ observations are numbers obtained through counting or measuring.

7. Label each of the following as an “inference,” a “qualitative observation”, or a “quantitative observation.”

- The plant has pink flowers. \_\_\_\_\_
- The plant is 12 inches tall. \_\_\_\_\_
- The plant is healthy because it was given sunlight and water. \_\_\_\_\_

8. The \_\_\_\_\_ variable is the factor in a controlled experiment that is deliberately changed while the \_\_\_\_\_ variable is the factor being observed and changes in response to the changing variable.

Use the following graph, which shows the effect of weight on the flight time of a paper airplane, to answer questions 9-10.



9. The independent variable is \_\_\_\_\_ while the dependent variable is \_\_\_\_\_.

10. Based on the graph, we can infer that the ideal weight for a paper airplane is \_\_\_\_\_ grams because \_\_\_\_\_.

11. A well-tested explanation that enables scientists to make accurate predictions and has never been shown to be false is called a \_\_\_\_\_. A concept based on scientific laws where general agreement is present is called a \_\_\_\_\_.

12. An objective, verifiable observation is a \_\_\_\_\_. A \_\_\_\_\_ generalizes a body of observations while describing things but not explaining them.

13. What are the 8 criteria that all living things must meet?

- |    |    |
|----|----|
| 1. | 5. |
| 2. | 6. |
| 3. | 7. |
| 4. | 8. |

14. The genetic material that organisms inherit from their parents is found in \_\_\_\_\_.  
The basic unit of all living things is the \_\_\_\_\_.

15. \_\_\_\_\_ organisms are made of one cell while \_\_\_\_\_ organisms are made of many cells.

16. Organisms maintain relatively constant internal physical and chemical conditions through \_\_\_\_\_. The chemical reactions through which an organism builds up or breaks down materials are referred to as \_\_\_\_\_. The signal to which an organism responds, such as light or temperature, is known as a \_\_\_\_\_.

17. \_\_\_\_\_ reproduction produces identical offspring from one parent. \_\_\_\_\_ reproduction produces new organisms from two different parents.

18. Give 3 examples of how organisms respond to stimuli.

- 1.
- 2.
- 3.

19. Give 3 examples of how organisms maintain homeostasis.

- 1.
- 2.
- 3.

20. Evolution refers to the change of \_\_\_\_\_ of organisms over \_\_\_\_\_. In addition to dividing, cells must \_\_\_\_\_.